

Could Natural COVID Immunity be better than Vaccinated Immunity?



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https://www.youtube.com/watch?v=_vxe9pJRQcs

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Hello, welcome to my channel Medicine with Dr. Moran. If you've not been here before I'm Dr. Keith Moran. Is a natural Covid infection really 13 times better than being vaccinated? My viewers have been asking me to review a new study that everybody is talking about. This study performed during the recent Delta outbreak in Israel demonstrates natural immunity to Covid. Here is the study.

Link Below

**Comparing SARS-CoV-2 natural immunity to vaccine-induced immunity:
reinfections versus breakthrough infections**

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The study investigators did a retrospective observational study comparing three different groups. Now it's important to note that the authors of the study had no financial disclosures and there was no commercial funding. The study is in pre-print and it's not peer-reviewed.



**Group 1 Never Infected, 2 Shots Pfizer
Group 2 Previously Infected, No Vaccine
Group 3 Had Covid and 1 Pfizer Shot**



The first group had never been infected with SARS Cov2 and they received two doses of the Pfizer vaccine. The second group were previously infected individuals who had not been vaccinated and the third group were previously infected people who received a single dose of the Pfizer vaccine. The study looked at 2.5 million people in the Member Health fund in Israel and this covers 26% of their population and provides quite a representative sample. The study population included people older than age 16 who were vaccinated before February 28, 2021 or who had had a documented SARS Cov2 infection by this date or who had both the documented infection and then received one dose of the vaccine three months later. Of interest on March 2nd, 2021 the Israeli Ministry of Health changed its guidelines to allow previously infected SARS Cov2 people to receive one dose of the vaccine after a minimum 3 month interval from the date of infection. They followed all of these three groups from June the 1st, to August 14, 2021 when Delta was the predominant strain in Israel. Here are their study results.

Could Natural COVID Immunity be better than Vaccinated Immunity? 🕒 ➡️ ⓘ

Vaccinated (Pfizer) vs Previously Infected

- 16,215 people in each group
- Matched each group for similar characteristics
- 257 infection cases in total
- 238 vax vs 19 prev. infected 13 X Difference

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First they compared vaccinated individuals versus previously infected people and they matched for the time of the second vaccination and the time of the documented infection. They wanted both to occur between January 1st and the end of February so what they were trying to do here was to match the time their immune system was activated in both groups and then after that examine what the protection was from either vaccination or natural infection. They matched 16,215 people in each group there were 257 infections of which 238 occurred in the vaccination group meaning a breakthrough infection and just 19 in the previously infected group. Now this represents a 13 times increased risk for breakthrough infection as opposed to statistically the likelihood of this result occurring by chance would be less than 1 in 1,000.

Vaccinated (Pfizer) vs Previously Infected

- 199 symptomatic infections.
- 191 vax vs 8 prev. infected. 27 X Difference
- 9 hospitalizations.
- 8 vax vs 1 prev. infected

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They then looked at symptomatic infections during the follow-up. There were 199 total cases 119 in the vaccinated group and only 8 in the previously infected group. This represents a 27 times increased risk for symptomatic vaccine breakthrough infection as opposed to symptomatic reinfection in the natural immunity group. Statistically the likelihood of this result occurring by chance would be again less than 1 in 1,000. Now there were 9 cases of Covid-19 related hospitalizations 8 in the vaccinated group and only 1 in the previously infected group. No Covid-19 related deaths were seen in either cohort. Next they matched 14,029 people who were previously infected with people who had been previously infected then subsequently got vaccinated. 81% of this group had their single dose vaccine after their positive PCR test. When they analyzed all the data they did find a trend towards reduction of risk of infection but it did not achieve statistical significance. That may be due to the fact that there were small numbers of re-infections in both groups. In summary this study is the largest real-world observational study we have comparing natural immunity gains from previous SARS Cov2 infection to the Pfizer to shot vaccine-induced immunity. There was a 13 times increased risk for breakthrough infection with Delta if you were vaccinated in January February 2021 versus being infected during those two months. The increased risk was significant for symptomatic disease as well. There also was a suggestion that a single vaccination after natural infection might reduce the risk of subsequent reinfection further although the numbers here were really too small and they did not reach statistical significance. Now there's obvious limitations to the study and I must mention these it's an observational study and they're matching two groups together instead of randomizing people. This can bring up confounders as there could be differences in health behaviors such as physical distancing and mask wearing or other confounders. They were however matched quite closely for important comorbidities such as obesity, cardiovascular disease, diabetes, high blood pressure, kidney disease, lung disease, cancer, and immunosuppression. Other residual medical illnesses confounding is therefore much less likely. The total number of people in both groups were large although the number of cases were relatively small.

Limitations

- Matching
- Number of COVID 19 cases small
- PCR Testing was voluntary

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In addition testing with PCR was voluntary during the study which means that comparisons could still be confounded. For example people infected previously who developed mild symptoms were maybe less likely to get tested than vaccinated people because perhaps they thought they were immune from their previous infection. Ultimately it will be important to see if the study can be replicated or even refuted. This study goes along with a number of other studies that I've reported on. Click on my natural immunity playlist above or below in the description for details on some of those other studies.

Article | Open Access | Published: 14 June 2021

Naturally enhanced neutralizing breadth against SARS-CoV-2 one year after infection

Zijun Wang, Frauke Muecksch, [...] Michel C. Nussenzweig 

Nature 595, 426–431 (2021) | Cite this article



There's also data from this group that showed people who recover from a SARS Cov2 infection continue to develop increasing numbers and types of Coronavirus targeting antibodies for up to one year. By contrast twice vaccinated people stop seeing increases in the potency or the breadth of the overall antibody memory compartment a few months after their second dose. Some have asked why might natural immunity be better than vaccinated immunity. This of course depends upon the disease in question.

Vaccinated vs Natural Immunity

- Vaccinated better:
- Chickenpox
- Human papilloma virus (cervical cancer)
- Tetanus
- Haemophilus influenza type B
- Pneumococcus

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With some diseases natural immunity is actually not as good as vaccinated immunity and examples of that would be Chickenpox, human papilloma virus that causes cervical cancer, Tetanus Hemophilic Influenza type B or the Pneumococcal vaccination to mention a few. For other viral illnesses such as Polio natural immunity can come at a high cost. When it comes to Covid-19 we do know that the viral proteins that are generated by the vaccine are against the spike protein receptor binding area of the virus. We know that with natural immunity the T cells as well as the antibodies are targeted against other parts of the virus such as the envelope proteins and the nucleocapsid proteins as well as the spike protein. This is why we have to consider people who have had previous infection as having a degree of immunity. Many have ended up in the hospital and over 4 million people at this time have died. This virus is more transmissible with the Delta variant and for each person who is infected that person potentially could infect numerous other people as its R₀ value is about 5. Just to remind you the R₀ is the number of people that a single person would transmit to if there's no immunity in the population. So one person could transmit to as many as five. Ideal vaccination regimen meaning the number of vaccinations and the timing between vaccinations to best protect those at risk. Different countries have taken different approaches depending upon the population at risk for example the United Kingdom continue to not recommend vaccination for healthy children under 16 as of September 2021.



They are trying to balance the risk versus benefit. They want to do this based on evidence-based medicine. Thank you today for joining me to learn some more about natural immunity. You've watched Medicine with Dr. Moran and my name's Dr. Keith Moran. Get healthy and stay healthy.

